

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-37								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-10-002	Contract Period 11/19/2009 To 09/19/2014 Base Option Period Number 3	Title of Work Assignment/SF Site Name Value of Water to U.S. Econ.								
Contractor INDUSTRIAL ECONOMICS, INCORPORATED		Specify Section and paragraph of Contract SOW Pg. 5-8, Element 1								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/20/2012 To 11/18/2012								
Comments: The purpose of this action is to initiate work Assignment (WA) 3-37 which continues but does not duplicate work previously performed under WA 2-37.										
<input type="checkbox"/> Superfund		Accounting and Appropriations Data								
		<input checked="" type="checkbox"/> Non Superfund								
Note: To report additional accounting and appropriations data use EPA form 1900 69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: 11/19/2009 To 09/19/2014		Cost/Fee:		LOE:						
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee:		LOE:						
Cumulative Approved:		Cost/Fee:		LOE:						
Work Assignment Manager Name John Powers						Branch/Mail Code:				
_____ (Signature)						_____ (Date)				
Project Officer Name Cheryl R. Brown						Phone Number 202-564-5776				
_____ (Signature)						_____ (Date)				
Other Agency Official Name						FAX Number: 202-564-0500				
_____ (Signature)						_____ (Date)				
Contracting Official Name Stefan Matkovic						Branch/Mail Code:				
_____ (Signature)						_____ (Date)				
						Phone Number: 202-564-1987				
						FAX Number:				

Statement of Work

Title: Technical Support to Stimulate and Promote Innovation in Science-based Approaches for Estimating the Value of Water to the U.S. Economy

Contractor: Industrial Economics, Inc.

Contract: EP-W-10-002

Work Assignment: 3-37

Period of Performance:

~~Phase 1: Date of issuance to November 18, 2011~~
~~Phase 2: November 19, 2011 to November 18, 2012~~
September 20, 2012 to November 18, 2012

Level of Effort: Phase 1: 750 hours
Phase 2: 1,700 hours
Total: 2,450 hours

Option Year 3 Hours 184.20

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Contract Level COR:
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BACKGROUND & PURPOSE

There currently is no organized, science-based narrative on the economic value of water to the U.S. economy. A qualitative review of the literature provides some insights on the importance of

water to certain sectors of the economy, such as tourism, farming and food production, fishing, manufacturing, infrastructure, housing and energy, but the information tends to be incomplete or lacking in strategic insight.

As a consequence, EPA and others are unable to systematically and comprehensively analyze the value of water to the U.S. economy, resulting in potentially inefficient resource protection and management decisions. This project is intended to stimulate and promote innovation to fill this information gap. Furthermore, when combined with EPA research on the value of water in the U.S. from *nonmarket* consumption (e.g., nonuse values, recreation, etc.), this project will serve as a catalyst for integrating market and nonmarket “pricing” information that is critical to support decision-making at multiple scales (e.g., EPA, state, regional, watershed, local).

The purpose of this project is, therefore, to stimulate and promote awareness and innovations resulting in the enhanced capacity of analysts and decision-makers to evaluate the economic value of water and the contribution it makes to the U.S. economy over time. Key questions to address include the following:

- Given projected trends in population growth and composition, trends toward urbanization, shortages in critical infrastructure investment, global warming, and other strategic drivers of change, how does the availability of clean water affect patterns of economic and regional development in the U.S.?
- How does clean water create competitive advantages for the U.S. in the 21st Century global economy? In what sectors of the U.S. economy are these competitive advantages most strategically significant to the nation as a whole? What are the implications on regional economic development?
- How robust are these projections to strategic choices made by other nations, and how could these choices affect relative (comparative) advantages between the U.S. and its trading partners?
- What strategic choices must the U.S. consider to maximize the sustainable economic value generated by its water supplies in the 21st Century?

The project will be managed to integrate, coordinate, and share knowledge developed in two areas. First, the contractor will engage stakeholders and external experts to begin a dialogue on the value of clean water to the U.S. economy through development of a comprehensive, high-level and forward-looking narrative that informs current and future decision-makers, and engages the public, policy-makers, civic leaders, business leaders, water managers, and others in appreciating the contribution water makes to the nation’s economic well-being. Second, EPA, with the support of the contractor, will conduct a technical analysis of the current economic and natural resource statistics, models, and methods available for valuing the contribution of water to the market economy, and identify innovations required to enhance its capacity to analyze the impacts of its regulations and policies on the U.S. economy.

The general workflow of the project is as follows:

Part I: Background Report

- Purpose: To provide a consistent set of background information that (1) provides a baseline understanding of the economic and natural resource statistics, methods and models available describing, and for conducting analysis of, the value of water to the U.S. economy, and (2) informs selection of strategic topics and experts for further inquiry in Part II of the project.

Part II: Expert Papers

- Purpose: To engage and provide technical assistance to experts on specific strategic topics identified in Part I to gain greater insight on current values of water to the U.S. economy, current analytic capabilities, and innovations required to enhance technical analysis capabilities.

Part III: Workshop

- Purpose: To present the findings from Parts I and II to a group of diverse stakeholders, engage the experts and stakeholders in a discussion about the findings and implications, and identify innovations required to enhance technical analysis capabilities.

Part IV: Synthesis Reports

- Purpose: To synthesize the findings of Parts I-IV into documents for non-technical and technical audiences. The synthesis for non-technical audiences shall focus on the findings on the value of water to the U.S. economy, whereas the synthesis for technical audiences shall focus on analytic issues, including innovations required to enhance EPA's capacity to integrate market and nonmarket "pricing" information critical to support decision-making at multiple scales (e.g., EPA, state, regional, watershed, local). One or both synthesis reports may be submitted for formal peer review.

Note that the duration of this project will extend into a new contract period of performance beginning November 19, 2011. The initial work assignment (Phase 1 of the project) will focus on Parts I and II, whereas the follow-up work assignment (Phase 2) will continue this work through completion of Part IV. A General Schedule of Deliverables is included below showing the anticipated work flow between the Phase 1 and Phase 2 work assignments. The products developed under Phase 1 are essential to completion of the work products developed under Phase 2 in the follow-up work assignment.

Note that EPA may consult with its Science Advisor Board (SAB) on this project. A task is included in this work assignment for the contractor to provide technical assistance to the WA

COR if required, and a column is included in the General Schedule of Deliverables describing the potential scope and timing of consultation.

Contractor personnel shall at all times identify themselves as contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

TASKS & DELIVERABLES

The WA COR will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments.

The contractor shall not duplicate work performed in the previous work assignment(s).

Phase 1: Task 1 – Prepare Workplan and QAPP, and Administer the Work Assignment -- COMPLETED

The contractor shall prepare a Workplan for Phase 1 and Phase 2 within 15 calendar days of receipt of a work assignment signed by the Contracting Officer. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a staffing plan, and a detailed cost estimate by task. The WA COR, Contract Level COR and the CO will review the workplan. However, only the CO can approve/disapprove the workplan. The contractor shall prepare a revised workplan incorporating the CO's comments, if required.

The contractor shall prepare a written Quality Assurance Project Plan (QAPP) and submit QA Reports with monthly progress reports and with the Final Report.

The contractor shall also identify how it will administer the work assignment.

Deliverables:

- 1A. Workplan due within 15 calendar days of receipt of the work assignment.
- 1B. Revised workplan due within 7 calendar days of receipt of comments from the Contracting Officer, if required.
- 1C. QAPP due within 15 calendar days of receipt of the work assignment.
- 1D. Revised QAPP due within 7 calendar days of receipt of comments from the **WA COR**, if required.
- 1E. Monthly QA Reports due with monthly progress reports and with the Final Report.

Phase 1: Task 2 – Begin Background Report (Contract SOW Ref. Pg. 5-8, Element 1) -- COMPLETED

The contractor shall write a background report that provides a consistent set of background information that (1) provides a baseline understanding of the economic and natural resource statistics, methods and models available describing, and for conducting analysis of, the value of water to the U.S. economy, and (2) informs selection of strategic topics and experts for further inquiry in Phase 2 of the project. To do this, the contractor shall review relevant literature, consult with experts, and analyze economic and natural resource statistics.

The report shall be written in four steps – Outline, Draft 1, Draft 2, and Final. The Outline and Draft 1 deliverables will be due under this work assignment, with specific due dates determined through technical direction. The Draft 2 and Final deliverables are addressed in Phase 2: Task 5 – Complete Background Report, described below.

Deliverables:

- 2A. Background Report – Outline due date determined by technical direction, but expected in October 2011, as indicated in the General Schedule of Deliverables.
- 2B. Background Report – Draft 1 due date determined by technical direction, but expected in November 2011, as indicated in the General Schedule of Deliverables.

Phase 1: Task 3 – Begin Expert Papers (Contract SOW Ref. Pg. 5-8, Element 1) -- COMPLETED

The contractor shall write approximately ten (10) expert-level papers on specific strategic topics identified in Phase 1: Task 2 to gain greater insight on current values of water to the U.S. economy, current analytic capabilities, and innovations required to enhance critical technical analysis capabilities.

The process for identifying the topics and experts shall be based on an objective and scientifically-based assessment of the deliverables and knowledge gained in Phase 1: Task 2. Specific sub-tasks for this task include (1) developing a Draft Topics List describing key focal areas for expert research and analysis; and (2) developing Draft Charge Questions to address in expert-level papers (may be general or specific to a topic). Additional requirements, including deliverable due dates, will be issued through technical direction.

Deliverables:

- 2A. Draft Topics List due date determined by technical direction, but expected in October 2011, as indicated in the General Schedule of Deliverables.
- 2B. Draft Charge Questions due date determined by technical direction, but expected in November 2011, as indicated in the General Schedule of Deliverables.

Phase 1: Task 4 – Support for SAB Consultation (Contract SOW Ref. Pg. 5-8, Element 1): COMPLETED

The contractor shall provide the WA COR with technical support for consulting with EPA's Science Advisory Board on this project. Specific activities may include developing presentation materials and charge questions, participating in technical discussions, and taking notes. Travel (day-trip; no overnight) to Washington, DC may be required for one or two individuals. Specific deliverables and due dates will be determined through technical direction.

Phase 2: Task 5 – Complete Background Report (Contract SOW Ref. Pg. 5-8, Element 1) -- COMPLETED

The contractor shall complete the background report initiated in Phase 1: Task 2. Specific deliverables under this phase of the work assignment include Draft 2 and Final report, with specific due dates to be determined through technical direction. The Background Report may be submitted for peer review. As described in the General Schedule of Deliverables (below), it is expected that Draft 2 will be due in January 2012, and that the Final report will be due in May 2012.

Deliverables:

- 5A. Background Report – Draft 2 due date determined by technical direction, but expected in January 2012, as indicated in the General Schedule of Deliverables
- 5B. Background Report – Final due date determined by technical direction, but expected in May 2012, as indicated in the General Schedule of Deliverables.

Phase 2: Task 6 – Complete Expert Papers (Contract SOW Ref. Pg. 5-8, Element 1) -- COMPLETED

The contractor shall complete the expert papers initiated in Phase 1: Task 3 by researching, writing, and editing draft and final expert papers. The expert papers may be submitted for peer review. Specific deliverable due dates will also be determined through technical direction, but as described in the General Schedule of Deliverables, it is expected that the Draft Expert Papers will be due in March 2012, and Final Expert papers will be due in May 2012.

Deliverables:

- 6A. Draft Expert Papers due date determined by technical direction, but expected in March 2012, as indicated in the General Schedule of Deliverables.
- 6B. Final Expert Papers due date determined by technical direction, but expected in May 2012, as indicated in the General Schedule of Deliverables.

Phase 2: Task 7 – Workshop (Contract SOW Ref. Pg. 5-8, Element 1) (INCOMPLETE)

The contractor shall organize a workshop for approximately 100-250 attendees to engage experts and a diverse group of stakeholders in a discussion about the findings and implications of the Background Report and Expert Papers, and to identify innovations required to enhance technical analysis capabilities. The workshop shall be organized to provide a comprehensive, high-level and forward-looking narrative that informs current and future decision-makers, and engages the public, policy-makers, civic leaders, business leaders, water managers, and others in appreciating the contribution water makes to the nation's economic well-being.

The contractor shall contribute to the planning of the workshop and agenda, develop PowerPoint presentations, give presentations, participate in discussions, take notes, and write draft and final workshop summaries. The contractor may be required to make space arrangements. Travel (3 days, 2 nights for 1-2 individuals) to Washington, DC or another location (TBD) for the workshop will be required.

As described in the General Schedule of Deliverables, it is expected that the Workshop will take place in June-August 2012 with planning activities taking place in January-May 2012. Draft and final workshop summaries are expected to be due no later than September and October 2012, respectively. Specific deliverables and due dates will be determined through technical direction.

Phase 2: Task 8 – Synthesis Reports (Contract SOW Ref. Pg. 5-8, Element 1) (INCOMPLETE)

The contractor shall synthesize the findings of Tasks 2-7 into two documents for non-technical and technical audiences. The synthesis for non-technical audiences shall focus on the findings on the value of water to the U.S. economy, whereas the synthesis for technical audiences shall focus on analytic issues, including innovations required to enhance EPA's capacity to integrate market and nonmarket "pricing" information critical to support decision-making at multiple scales (e.g., EPA, state, regional, watershed, local). One or both synthesis reports may be submitted for formal peer review.

The process for writing the synthesis reports shall be based on an objective and scientifically-based assessment of the deliverables produced under Tasks 2-7. Deliverables will include draft and final outlines, and draft and final reports for both syntheses. As described in the General Schedule of Deliverables (below), it is expected that the Draft Outlines will be due in May-June 2012, Final Outlines will be due in August 2012, Draft Reports will be due in September 2012, and Final Reports will be due in October 2012. Specific deliverables and due dates will be determined through technical direction.

Deliverables: (INCOMPLETE)

- 8A. Draft Outlines for Synthesis Reports due date determined by technical direction, but expected in May-June 2012, as indicated in the General Schedule of Deliverables.
- 8B. Final Outlines for Synthesis Reports due date determined by technical direction, but expected in August 2012, as indicated in the General Schedule of Deliverables.
- 8C. Draft Synthesis Reports due date determined by technical direction, but expected in September 2012, as indicated in the General Schedule of Deliverables.
- 8D. Draft Synthesis Reports due date determined by technical direction, but expected in September 2012, as indicated in the General Schedule of Deliverables.

**Phase 2: Task 9 – Support for SAB Consultation (Contract SOW Ref. Pg. 5-8, Element 1)
(INCOMPLETE)**

The contractor shall provide the WA COR with technical support for consulting with EPA's Science Advisory Board on this project. Specific activities may include developing presentation materials and charge questions, participating in technical discussions, and taking notes. Travel (day-trip; no overnight) to Washington, DC may be required for one or two individuals. Specific deliverables and due dates will be determined through technical direction.

General Schedule of Deliverables

	Part I Background Report	Part II Expert Papers	Part III Workshop	Part IV Synthesis Reports	Timeline
PROJECT PHASE 1 – this work assignment (through Nov 18, 2011)					
Sep ‘11					Timeline subject to change as project progresses
Oct ‘11	Outline	Draft topics list			
Nov ‘11	Draft 1	Draft charge questions			
PROJECT PHASE 2 – follow-on work assignment (beginning Nov 19, 2011 through Nov 18, 2012)					
Dec ‘11		Final topics list Final charge questions Define scope of expert papers			
Jan ‘12	Draft 2	Provide RA support for experts	Workshop planning		Timeline subject to change as project progresses
Feb ‘12					
Mar ‘12		Draft Papers			
Apr ‘12					
May ‘12	Final	Final		Draft Outlines	Timeline subject to change as project progresses
Jun ‘12			Workshop		
Jul ‘12					
Aug ‘12				Final Outlines	
Sep ‘12			Draft workshop summary due	Draft Reports	
Oct ‘12			Final workshop summary due	Final Reports	Timeline subject to change as project progresses
Nov ‘12					Summary and Final Synthesis Reports

Major Deliverables:

- **Final Background Report (Phase I) – May ‘12**
- **Final Expert Papers (Phase II) – May ‘12**
- **Workshop (Phase III) – Jun-Aug ‘12**
- **Final Workshop Summary (Phase III) – Oct ‘12**
- **Final Synthesis Reports (Phase IV) – Oct ‘12**
- **Interim Consultations with WNW – December 12, January ‘13, May-Jun ‘13, October ‘13**

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-37 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-10-002	Contract Period 11/19/2009 To 09/19/2014 Base Option Period Number 3	Title of Work Assignment/SF Site Name Value of Water to U.S. Moon.								
Contractor INDUSTRIAL ECONOMICS, INCORPORATED		Specify Section and paragraph of Contract: SOW Pgs. 5-8, Elements 1								
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval		Period of Performance From 09/20/2012 To 11/18/2012								
Comments: The purpose of this action to Work Assignment 3-37 is to approve the contractor's revised work plan budget dated October 24, 2012 for Option Year 3 with an estimated cost of (b)(4) fixed fee (b)(4) for a ceiling of \$11,141.59 and 162.9 level of effort hours for this work assignment.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: 11/19/2009 To 09/19/2014		Cost/Fee:		LOE:						
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 10/24/2012		Cost/Fee: \$11,141.59		LOE: 163						
Cumulative Approved:		Cost/Fee: \$11,141.59		LOE: 163						
Work Assignment Manager Name John Powers							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-564-5776			
							FAX Number: 202-564-0500			
Project Officer Name Cheryl R. Brown							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-566-0940			
							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number:			
							FAX Number:			
Contracting Official Name Stefan Martiyan							Branch/Mail Code:			
_____ (Signature) 11/8/12 (Date)							Phone Number: 202-564-1987			
							FAX Number:			

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-37	
		<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000002	
Contract Number 82-W-10-002	Contract Period 11/19/2009 To 09/19/2014	Title of Work Assignment/SF Site Name	
	Base Option Period Number 3	Value of Water to U.S. Econ.	
Contractor INDUSTRIAL ECONOMICS, INCORPORATED		Specify Section and paragraph of Contract SOW Pgs. 5-8, Elements 1	
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/20/2012 To 04/30/2013	
Comments: The purpose of this amendment to Work Assignment (WA) 3-37 is to increase the level of effort by 188 hours and to add Task 10 and Task 11 to the WA Statement of Work. The contractor shall submit a work plan and budget estimate in accordance with the contract.			
<input type="checkbox"/> Superfund		Accounting and Appropriations Data	
		<input checked="" type="checkbox"/> Non-Superfund	
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.			
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)
			Budget Org/Code (Max 7)
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			Amount (Dollars)
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			Site/Project (Max 8)
			Cost Org/Code (Max 7)
1			
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Authorized Work Assignment Ceiling			
Contract Period: 11/19/2009 To 09/19/2014		Cost/Fee: LOE:	
This Action:			
Total:			
Work Plan / Cost Estimate Approvals			
Contractor WP Dated:		Cost/Fee: LOE:	
Cumulative Approved:		Cost/Fee: LOE:	
Work Assignment Manager Name John Powers		Branch/Mail Code:	
_____ (Signature) (Date)		Phone Number 202-564-5776	
		FAX Number: 202-564-0500	
Project Officer Name Cheryl R. Brown		Branch/Mail Code:	
_____ (Signature) (Date)		Phone Number: 202-566-0940	
		FAX Number:	
Other Agency Official Name		Branch/Mail Code:	
_____ (Signature) (Date)		Phone Number:	
		FAX Number:	
Contracting Official Name Stefan Martijan		Branch/Mail Code:	
_____ (Signature) 11/29/2012 (Date)		Phone Number: 202-564-1987	
		FAX Number:	

Statement of Work

Title: Technical Support to Stimulate and Promote Innovation in Science-based Approaches for Estimating the Value of Water to the U.S. Economy

Contractor: Industrial Economics, Inc.

Contract: EP-W-10-002

Work Assignment: 3-37, Amendment 2

Period of Performance:

~~Phase 1: Date of issuance to November 18, 2011~~

~~Phase 2: November 19, 2011 to November 18, 2012~~

Date of issuance to ~~September 19, 2013~~ April 30, 2013

Level of Effort: 188 Amendment

Phase 1: 750 hours

Phase 2: 1,700 hours

Total: 2,450 hours

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Contract Level COR:
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BACKGROUND & PURPOSE

There currently is no organized, science-based narrative on the economic value of water to the U.S. economy. A qualitative review of the literature provides some insights on the importance of water to certain sectors of the economy, such as tourism, farming and food production, fishing,

manufacturing, infrastructure, housing and energy, but the information tends to be incomplete or lacking in strategic insight.

As a consequence, EPA and others are unable to systematically and comprehensively analyze the value of water to the U.S. economy, resulting in potentially inefficient resource protection and management decisions. This project is intended to stimulate and promote innovation to fill this information gap. Furthermore, when combined with EPA research on the value of water in the U.S. from *nonmarket* consumption (e.g., nonuse values, recreation, etc.), this project will serve as a catalyst for integrating market and nonmarket “pricing” information that is critical to support decision-making at multiple scales (e.g., EPA, state, regional, watershed, local).

The purpose of this project is, therefore, to stimulate and promote awareness and innovations resulting in the enhanced capacity of analysts and decision-makers to evaluate the economic value of water and the contribution it makes to the U.S. economy over time. Key questions to address include the following:

- Given projected trends in population growth and composition, trends toward urbanization, shortages in critical infrastructure investment, global warming, and other strategic drivers of change, how does the availability of clean water affect patterns of economic and regional development in the U.S.?
- How does clean water create competitive advantages for the U.S. in the 21st Century global economy? In what sectors of the U.S. economy are these competitive advantages most strategically significant to the nation as a whole? What are the implications on regional economic development?
- How robust are these projections to strategic choices made by other nations, and how could these choices affect relative (comparative) advantages between the U.S. and its trading partners?
- What strategic choices must the U.S. consider to maximize the sustainable economic value generated by its water supplies in the 21st Century?

The project will be managed to integrate, coordinate, and share knowledge developed in two areas. First, the contractor will engage stakeholders and external experts to begin a dialogue on the value of clean water to the U.S. economy through development of a comprehensive, high-level and forward-looking narrative that informs current and future decision-makers, and engages the public, policy-makers, civic leaders, business leaders, water managers, and others in appreciating the contribution water makes to the nation’s economic well-being. Second, EPA, with the support of the contractor, will conduct a technical analysis of the current economic and natural resource statistics, models, and methods available for valuing the contribution of water to the market economy, and identify innovations required to enhance its capacity to analyze the impacts of its regulations and policies on the U.S. economy.

The general workflow of the project is as follows:

Part I: Background Report

- Purpose: To provide a consistent set of background information that (1) provides a baseline understanding of the economic and natural resource statistics, methods and models available describing, and for conducting analysis of, the value of water to the U.S. economy, and (2) informs selection of strategic topics and experts for further inquiry in Part II of the project.

Part II: Expert Papers

- Purpose: To engage and provide technical assistance to experts on specific strategic topics identified in Part I to gain greater insight on current values of water to the U.S. economy, current analytic capabilities, and innovations required to enhance technical analysis capabilities.

Part III: Workshop

- Purpose: To present the findings from Parts I and II to a group of diverse stakeholders, engage the experts and stakeholders in a discussion about the findings and implications, and identify innovations required to enhance technical analysis capabilities.

Part IV: Synthesis Reports

- Purpose: To synthesize the findings of Parts I-IV into documents for non-technical and technical audiences. The synthesis for non-technical audiences shall focus on the findings on the value of water to the U.S. economy, whereas the synthesis for technical audiences shall focus on analytic issues, including innovations required to enhance EPA's capacity to integrate market and nonmarket "pricing" information critical to support decision-making at multiple scales (e.g., EPA, state, regional, watershed, local). One or both synthesis reports may be submitted for formal peer review.

Note that the duration of this project will extend into a new contract period of performance beginning November 19, 2011. The initial work assignment (Phase 1 of the project) will focus on Parts I and II, whereas the follow-up work assignment (Phase 2) will continue this work through completion of Part IV. A General Schedule of Deliverables is included below showing the anticipated work flow between the Phase 1 and Phase 2 work assignments. The products developed under Phase 1 are essential to completion of the work products developed under Phase 2 in the follow-up work assignment.

Note that EPA may consult with its Science Advisor Board (SAB) on this project. A task is included in this work assignment for the contractor to provide technical assistance to the WA COR if required, and a column is included in the General Schedule of Deliverables describing the potential scope and timing of consultation. **The purpose of this action is to add Task 10 and 11 as provided below.**

Contractor personnel shall at all times identify themselves as contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

TASKS & DELIVERABLES

The WA COR will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments.

The contractor shall not duplicate work performed in the previous work assignment(s).

Phase 1: Task 1 – Prepare Workplan and QAPP, and Administer the Work Assignment -- COMPLETED

The contractor shall prepare a Workplan for Phase 1 and Phase 2 within 15 calendar days of receipt of a work assignment signed by the Contracting Officer. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a staffing plan, and a detailed cost estimate by task. The WA COR, Contract Level COR and the CO will review the workplan. However, only the CO can approve/disapprove the workplan. The contractor shall prepare a revised workplan incorporating the CO's comments, if required.

The contractor shall prepare a written Quality Assurance Project Plan (QAPP) and submit QA Reports with monthly progress reports and with the Final Report.

The contractor shall also identify how it will administer the work assignment.

Deliverables:

- 1A. Workplan due within 15 calendar days of receipt of the work assignment.
- 1B. Revised workplan due within 7 calendar days of receipt of comments from the Contracting Officer, if required.
- 1C. QAPP due within 15 calendar days of receipt of the work assignment.
- 1D. Revised QAPP due within 7 calendar days of receipt of comments from the WA COR, if required.
- 1E. Monthly QA Reports due with monthly progress reports and with the Final Report.

Phase 1: Task 2 – Begin Background Report (Contract SOW Ref. Pg. 5-8, Element 1) -- COMPLETED

The contractor shall write a background report that provides a consistent set of background information that (1) provides a baseline understanding of the economic and natural resource statistics, methods and models available describing, and for conducting analysis of, the value of

water to the U.S. economy, and (2) informs selection of strategic topics and experts for further inquiry in Phase 2 of the project. To do this, the contractor shall review relevant literature, consult with experts, and analyze economic and natural resource statistics.

The report shall be written in four steps – Outline, Draft 1, Draft 2, and Final. The Outline and Draft 1 deliverables will be due under this work assignment, with specific due dates determined through technical direction. The Draft 2 and Final deliverables are addressed in Phase 2: Task 5 – Complete Background Report, described below.

Deliverables:

- 2A. Background Report – Outline due date determined by technical direction, but expected in October 2011, as indicated in the General Schedule of Deliverables.
- 2B. Background Report – Draft 1 due date determined by technical direction, but expected in November 2011, as indicated in the General Schedule of Deliverables.

Phase 1: Task 3 – Begin Expert Papers (Contract SOW Ref. Pg. 5-8, Element 1) -- COMPLETED

The contractor shall write approximately ten (10) expert-level papers on specific strategic topics identified in Phase 1: Task 2 to gain greater insight on current values of water to the U.S. economy, current analytic capabilities, and innovations required to enhance critical technical analysis capabilities.

The process for identifying the topics and experts shall be based on an objective and scientifically-based assessment of the deliverables and knowledge gained in Phase 1: Task 2. Specific sub-tasks for this task include (1) developing a Draft Topics List describing key focal areas for expert research and analysis; and (2) developing Draft Charge Questions to address in expert-level papers (may be general or specific to a topic). Additional requirements, including deliverable due dates, will be issued through technical direction.

Deliverables:

- 2A. Draft Topics List due date determined by technical direction, but expected in October 2011, as indicated in the General Schedule of Deliverables.
- 2B. Draft Charge Questions due date determined by technical direction, but expected in November 2011, as indicated in the General Schedule of Deliverables.

Phase 1: Task 4 – Support for SAB Consultation (Contract SOW Ref. Pg. 5-8, Element 1): COMPLETED

The contractor shall provide the WA COR with technical support for consulting with EPA's Science Advisory Board on this project. Specific activities may include developing presentation materials and charge questions, participating in technical discussions, and taking notes. Travel

(day-trip; no overnight) to Washington, DC may be required for one or two individuals. Specific deliverables and due dates will be determined through technical direction.

Phase 2: Task 5 – Complete Background Report (Contract SOW Ref. Pg. 5-8, Element 1) -- COMPLETED

The contractor shall complete the background report initiated in Phase 1: Task 2. Specific deliverables under this phase of the work assignment include Draft 2 and Final report, with specific due dates to be determined through technical direction. The Background Report may be submitted for peer review. As described in the General Schedule of Deliverables (below), it is expected that Draft 2 will be due in January 2012, and that the Final report will be due in May 2012.

Deliverables:

- 5A. Background Report – Draft 2 due date determined by technical direction, but expected in January 2012, as indicated in the General Schedule of Deliverables
- 5B. Background Report – Final due date determined by technical direction, but expected in May 2012, as indicated in the General Schedule of Deliverables.

Phase 2: Task 6 – Complete Expert Papers (Contract SOW Ref. Pg. 5-8, Element 1) -- COMPLETED

The contractor shall complete the expert papers initiated in Phase 1: Task 3 by researching, writing, and editing draft and final expert papers. The expert papers may be submitted for peer review. Specific deliverable due dates will also be determined through technical direction, but as described in the General Schedule of Deliverables, it is expected that the Draft Expert Papers will be due in March 2012, and Final Expert papers will be due in May 2012.

Deliverables:

- 6A. Draft Expert Papers due date determined by technical direction, but expected in March 2012, as indicated in the General Schedule of Deliverables.
- 6B. Final Expert Papers due date determined by technical direction, but expected in May 2012, as indicated in the General Schedule of Deliverables.

Phase 2: Task 7 – Workshop (Contract SOW Ref. Pg. 5-8, Element 1) (INCOMPLETE)

The contractor shall organize a workshop for approximately 100-250 attendees to engage experts and a diverse group of stakeholders in a discussion about the findings and implications of the Background Report and Expert Papers, and to identify innovations required to enhance technical analysis capabilities. The workshop shall be organized to provide a comprehensive, high-level and forward-looking narrative that informs current and future decision-makers, and engages the

public, policy-makers, civic leaders, business leaders, water managers, and others in appreciating the contribution water makes to the nation's economic well-being.

The contractor shall contribute to the planning of the workshop and agenda, develop PowerPoint presentations, give presentations, participate in discussions, take notes, and write draft and final workshop summaries. The contractor may be required to make space arrangements. Travel (3 days, 2 nights for 1-2 individuals) to Washington, DC or another location (TBD) for the workshop will be required.

As described in the General Schedule of Deliverables, it is expected that the Workshop will take place in June-August 2012 with planning activities taking place in January-May 2012. Draft and final workshop summaries are expected to be due no later than September and October 2012, respectively. Specific deliverables and due dates will be determined through technical direction.

Phase 2: Task 8 – Synthesis Reports (Contract SOW Ref. Pg. 5-8, Element 1) (INCOMPLETE)

The contractor shall synthesize the findings of Tasks 2-7 into two documents for non-technical and technical audiences. The synthesis for non-technical audiences shall focus on the findings on the value of water to the U.S. economy, whereas the synthesis for technical audiences shall focus on analytic issues, including innovations required to enhance EPA's capacity to integrate market and nonmarket "pricing" information critical to support decision-making at multiple scales (e.g., EPA, state, regional, watershed, local). One or both synthesis reports may be submitted for formal peer review.

The process for writing the synthesis reports shall be based on an objective and scientifically-based assessment of the deliverables produced under Tasks 2-7. Deliverables will include draft and final outlines, and draft and final reports for both syntheses. As described in the General Schedule of Deliverables (below), it is expected that the Draft Outlines will be due in May-June 2012, Final Outlines will be due in August 2012, Draft Reports will be due in September 2012, and Final Reports will be due in October 2012. Specific deliverables and due dates will be determined through technical direction.

Deliverables: (INCOMPLETE)

- 8A. Draft Outlines for Synthesis Reports due date determined by technical direction, but expected in May-June 2012, as indicated in the General Schedule of Deliverables.
- 8B. Final Outlines for Synthesis Reports due date determined by technical direction, but expected in August 2012, as indicated in the General Schedule of Deliverables.
- 8C. Draft Synthesis Reports due date determined by technical direction, but expected in September 2012, as indicated in the General Schedule of Deliverables.

8D. Draft Synthesis Reports due date determined by technical direction, but expected in September 2012, as indicated in the General Schedule of Deliverables.

Phase 2: Task 9 – Support for SAB Consultation (Contract SOW Ref. Pg. 5-8, Element 1) (INCOMPLETE)

The contractor shall provide the WA COR with technical support for consulting with EPA's Science Advisory Board on this project. Specific activities may include developing presentation materials and charge questions, participating in technical discussions, and taking notes. Travel (day-trip; no overnight) to Washington, DC may be required for one or two individuals. Specific deliverables and due dates will be determined through technical direction.

Phase 3: Task 10 – Attend Public Symposium in Washington, DC (Contract SOW Ref. Pg. 5-8, Element 1) (New Task)

The contractor shall send up to two of the study authors to *The Importance of Water to the U.S. Economy* public symposium being held from 1-5 pm at American University in Washington, DC on December 4, 2012. It is expected that this trip will involve airfare and per diem, but not overnight accommodations. Due to space limitations, it is expected that only one of the study authors will be able to attend, but this will be confirmed by the WACOR through technical direction.

While at the public symposium, the contractor shall answer questions and participate in discussions. No presentation is necessary.

Phase 3: Task 11 – Revise documents based on feedback from the public and SAB (Contract SOW Ref. Pg. 5-8, Element 1) (New Task)

The contractor shall revise documents (e.g., Background Report, Synthesis Report) produced under this work assignment as directed by the WACOR. Revisions are expected in response to public review and SAB review. Specific deliverables and due dates will be determined through technical direction.

General Schedule of Deliverables

	Part I Background Report	Part II Expert Papers	Part III Workshop	Part IV Synthesis Reports	Potential SAB Consultation
PROJECT PHASE 1 – this work assignment (through Nov 18, 2011)					
Sep ‘11					Provide project overview & seek advice on engaging experts
Oct ‘11	Outline	Draft topics list			
Nov ‘11	Draft 1	Draft charge questions			
PROJECT PHASE 2 – follow-on work assignment (beginning Nov 19, 2011 through Nov 18, 2012)					
Dec ‘11		Final topics list Final charge questions Define scope of expert papers			
Jan ‘12	Draft 2	Provide RA support for experts	Workshop planning		Share & discuss Draft 2 Background Report
Feb ‘12					
Mar ‘12		Draft Papers			
Apr ‘12					
May ‘12	Final	Final		Draft Outlines	Share & discuss Final Expert Papers
Jun ‘12			Workshop		
Jul ‘12					
Aug ‘12					Final Outlines
Sep ‘12			Draft workshop summary due	Draft Reports	
Oct ‘12			Final workshop summary due	Final Reports	Present & discuss Final Workshop Summary and Final Synthesis Reports
Nov ‘12					

Major Deliverables:

- **Final Background Report (Phase I) – May ‘12**
- **Final Expert Papers (Phase II) – May ‘12**
- **Workshop (Phase III) – Jun-Aug ‘12**
- **Final Workshop Summary (Phase III) – Oct ‘12**
- **Final Synthesis Reports (Phase IV) – Oct ‘12**
- **Potential consultations with SAB – Sep-Nov ‘11, Jan-Feb ‘12, May-Jun ‘12, Oct-Nov ‘12**

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-37 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-10-002	Contract Period 11/19/2009 To 09/19/2014 Base Option Period Number 3	Title of Work Assignment/SF Site Name Value of Water to U.S. Econ.								
Contractor INDUSTRIAL ECONOMICS, INCORPORATED		Specify Section and paragraph of Contract SOW Pgs. 5-8, Elements 1								
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval		Period of Performance From 09/20/2012 To 04/30/2013								
Comments: The purpose of this action under Work Assignment (WA) 3-37 is to approve the contractor's budget estimate and work plan dated November 7, 2012 for an estimated cost of (b)(4) fixed fee of (b)(4) for a total ceiling of \$28,861.45, and 210.5 level of effort hours.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: 11/19/2009 To 09/19/2014		Cost/Fee:		LOE:						
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 11/07/2012		Cost/Fee: \$28,861.45		LOE: 211						
Cumulative Approved:		Cost/Fee: \$40,003.04		LOE: 308						
Work Assignment Manager Name John Powers							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number 202-564-5776			
_____ (Signature) (Date)							FAX Number: 202-564-0500			
Project Officer Name Cheryl R. Brown							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-566-0940			
_____ (Signature) (Date)							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number:			
_____ (Signature) (Date)							FAX Number:			
Contracting Official Name Stefan Martiyan							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-564-1987			
_____ (Signature) (Date)							FAX Number:			

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-37

☐ Other ☐ Amendment Number:

Contract Number

EP-W-10-002

Contract Period 11/19/2009 To 09/19/2014

Base Option Period Number 3

Title of Work Assignment/SF Site Name

Value of Water to U.S. Econ.

Contractor

INDUSTRIAL ECONOMICS, INCORPORATED

Specify Section and paragraph of Contract SOW

Pgs. 5-8, Elements 1

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☒

Work Plan Approval

Period of Performance

From 09/20/2012 To 04/30/2013

Comments:

The purpose of this action under Work Assignment 3-37 is to approve the contractor's work plan and budget estimate dated December 6, 2012 for 188 hours level of effort, (b)(4) in estimated costs, (b)(4) in fixed fee with a ceiling of \$21,088.26.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

11/19/2009 To 09/19/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 12/06/2012

Cost/Fee: \$21,088.26

LOE: 188

Cumulative Approved:

Cost/Fee: \$62,091.30

LOE: 496

Work Assignment Manager Name John Powers

Branch/Mail Code:

Phone Number 202-564-5776

FAX Number: 202-564-0500

Project Officer Name Cheryl R. Brown

Branch/Mail Code:

Phone Number: 202-566-0940

FAX Number:

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

Contracting Official Name Stefan Matliyan

Branch/Mail Code:

Phone Number: 202-564-1987

FAX Number:

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-37								
		<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000003								
Contract Number EP-W-10-C02	Contract Period 11/19/2009 To 09/19/2014 Base Option Period Number: 3	Title of Work Assignment/SF Site Name Value of Water to U.S. Econ.								
Contractor INDUSTRIAL ECONOMICS, INCORPORATED		Specify Section and paragraph of Contract SOW Pgs, 5-8, Elements								
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/20/2012 To 06/30/2013								
Comments: The purpose of this amendment to Work Assignment (WA) 3-37 is to extend the WA period of performance end date to June 30, 2013 at no additional cost to the Government and to change the primary WA Contracting Officer's Representative to Joe! Corona.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Std/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
11/19/2009 To 09/19/2014										
(This Action: _____ Total: _____										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee:		LOE:						
Cumulative Approved		Cost/Fee:		LOE:						
Work Assignment Manager Name: Joe! Corona _____ (Signature) (Date)								Branch/Mail Code: Phone Number: 202-564-0036 FAX Number:		
Project Officer Name: Cheryl R. Brown _____ (Signature) (Date)								Branch/Mail Code: Phone Number: 202-566-0940 FAX Number:		
Other Agency Official Name: _____ (Signature) (Date)								Branch/Mail Code: Phone Number: FAX Number:		
Contracting Official Name: Stefan Martinyan _____ (Signature) (Date)								Branch/Mail Code: Phone Number: 202-564-1987 FAX Number:		